## SUPPORTING INFORMATION

# Photoreductive Dissolution of Iron Oxides Trapped in Ice and Its Environmental Implications

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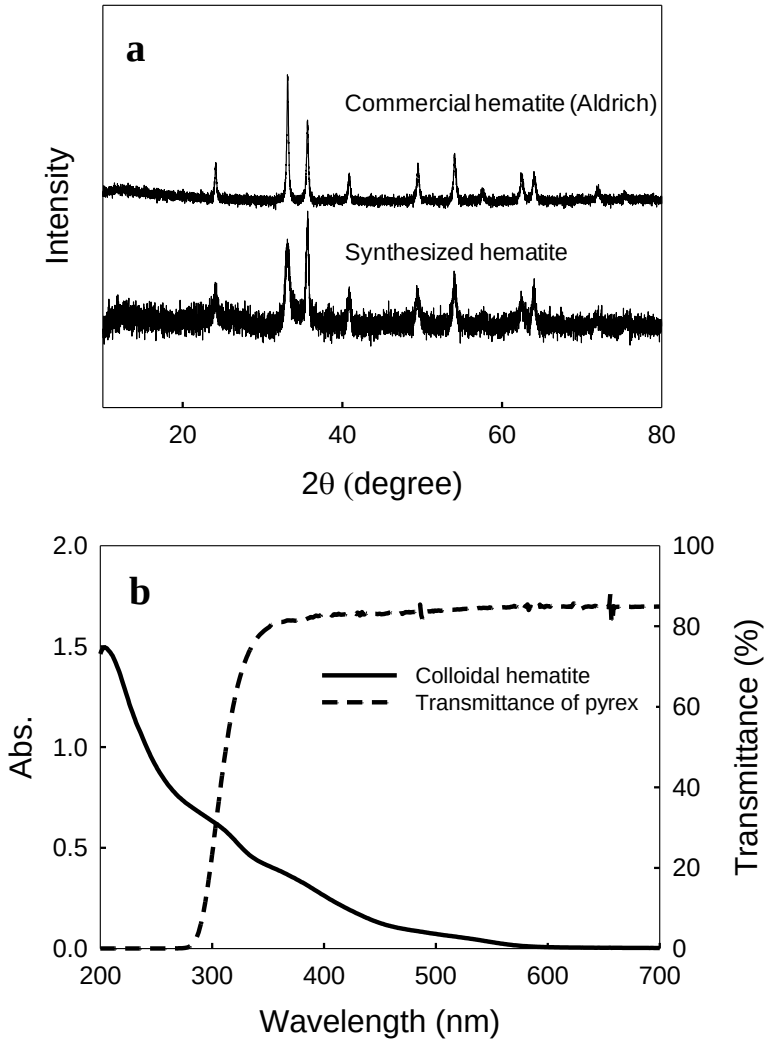


**FIGURE S1.** Characterization of synthesized hematite. (a) XRD pattern of commercial hematite (Aldrich) and synthesized hematite. (b) UV-visible absorption spectrum of synthesized hematite colloid (16 mg/L) and the transmittance of pyrex filter.

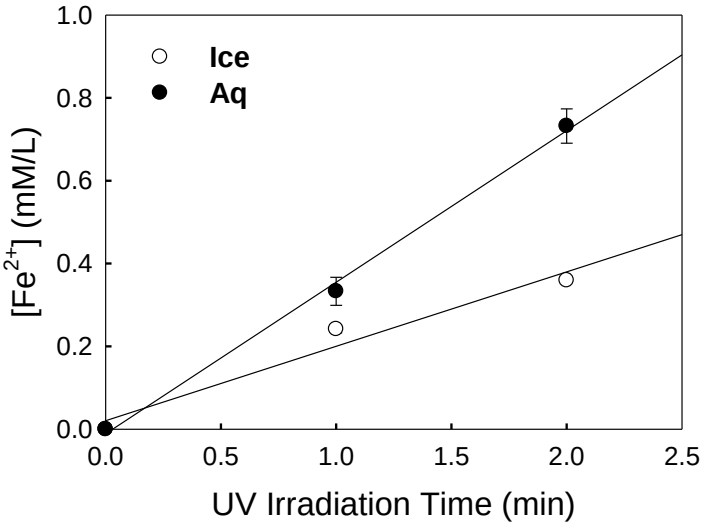


**FIGURE S2.** Comparison of the UV light absorbed by the ice and aqueous solution containing ferrioxalate. The photogeneration rates of $Fe^{2+}$, which indicate the absorbed light intensity, are compared between ice and water.